



Impact of Yogic Practices on Flexibility in intercollegiate Kabaddi Players: An Experimental Study

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Abstract: This study investigates the effect of yogic practices on the flexibility of male degree college students. Fifty participants from Government First Grade College, Haveri, Karnataka, India, were randomly assigned to two groups: Experimental Group-I (YEPG), which engaged in yogic practices and Group-II (CG), the control group. Pre-test flexibility scores were measured for both groups using the sit-and-reach test (in centimeters). Over 8 weeks period, Group-I participated in yogic practices three days a week in addition to their regular activities, while the control group followed their usual routine. After the intervention, post-test flexibility scores were obtained, and the significance of changes in flexibility was assessed using a dependent t-test. A statistical analysis utilizing SPSS and MS Excel demonstrated a significant improvement in flexibility among intercollegiate Kabaddi players who practiced yoga. The results showed that intercollegiate Kabaddi players who participated in yogic practices improved their flexibility significantly more than the control group. These findings give compelling evidence that introducing yogic practices into Kabaddi players' training regimens can improve their flexibility and overall athletic performance.

Index Terms - Yogic Practices, Training, Flexibility, Male Students, Degree College, Yoga

1. INTRODUCTION:

Flexibility is an important physical trait that influences athletic performance and general fitness. Flexibility is critical in sports like Kabaddi, which require sudden accelerations, rapid directional changes, dodging, and tackling. Despite its value, flexibility training is typically overlooked in favor of strength and endurance workouts in many sports training regimens (Jayalaxmi & Manjunath, 2015). Addressing this gap, yoga develops as a comprehensive practice that not only improves flexibility but also promotes physical, mental, and emotional well-being.

Yoga is an ancient Indian practice that includes physical postures (asanas), breathing exercises (pranayama), and meditation techniques to balance the body and mind. According to research, frequent yoga practice increases flexibility, muscular suppleness, and joint mobility, which has considerable benefits for athletes (Satyananda Saraswati, 2008). Unlike traditional flexibility training, yoga includes mindfulness and stress reduction, both of which are essential for peak athletic performance (Khalsa et al., 2012). These characteristics make yoga ideal for athletes looking for a holistic approach to physical conditioning.

This study investigates the effect of yoga practices on the flexibility of intercollegiate Kabaddi players. Kabaddi is a physically difficult sport that requires players to have great levels of athleticism, agility, and mental attention. Flexibility, in particular, is essential for performing complex maneuvers, reducing injury risk, and aiding recovery from strenuous physical activity (Rao, 2018). This study investigates the usefulness of incorporating yoga into Kabaddi players' training regimens as a long-term strategy of improving both physical performance and overall wellness.

The outcomes of this study will have far-reaching consequences beyond Kabaddi, adding to the expanding body of evidence supporting yoga's use in sports science and athletic training. As yoga gains widespread reputation for its numerous advantages, this study highlights its significance in modern sporting activities.

2. LITERATURE REVIEW

Several studies have looked into the impact of yogic practices on flexibility and general athletic performance, with encouraging results.

Rao (2018) examined the importance of flexibility in athletics and emphasized yoga's efficacy in lowering injury risk and improving recovery. According to the study, yoga provides a variety of physical and psychological benefits, such as increased range of motion, less muscular stiffness, and improved neuromuscular coordination. These benefits are especially important for high-intensity sports such as Kabaddi.

Khalsa et al. (2012) conducted a randomized controlled experiment to assess the physical and mental health benefits of yoga among secondary school students. The study discovered significant increases in flexibility, attention, and stress management among students who completed a 12-week yoga program. These findings highlight yoga's potential as a tool for improving physical and mental fitness among young people.

Satyananda Saraswati (2008) stated that continuous asana and pranayama practice promotes flexibility by increasing joint mobility and muscle suppleness. This study also stressed the importance of yoga in enhancing body posture and balance, which are critical for athletes.

Manjunath and Telles (2001) investigated the effects of yoga-based physical activities on athletes and concluded that yoga enhances physical fitness by enhancing flexibility, balance, and endurance. The study found that yoga may be combined with traditional sports training to improve performance while reducing injury risks.

Research Gap: While these studies provide vital insights into the benefits of yoga for flexibility and overall fitness, research on intercollegiate Kabaddi players is still lacking. Most existing research focuses on general populations, school children, or athletes from other sports, leaving a gap in our understanding of yoga's role in resolving Kabaddi's special physical demands. Furthermore, few researches have rigorously compared the effects of yoga to typical training methods in sports-specific settings.

This study seeks to fill these gaps by examining the direct influence of yogic practices on the flexibility of intercollegiate Kabaddi players, with a focus on their specific physical and performance needs. By tackling this unknown area, the study hopes to provide evidence-based recommendations for incorporating yoga into Kabaddi training programs, so contributing to sports science and practical coaching techniques.

3. SIGNIFICANCE OF THE STUDY

Flexibility is essential for avoiding injuries and improving athletic performance, especially in Kabaddi, where players must have a wide range of motion and agility. According to studies, practicing asanas (physical postures) and pranayama (breathing exercises) on a regular basis can help improve flexibility. Athletes who incorporate yoga into their training programs may experience improved muscle control, reduced stiffness, and increased performance. Furthermore, yoga has been demonstrated to improve mental focus and reduce stress, which can benefit athletes' general health (Khalsa et al., 2012). This study is significant for sports science because it demonstrates the effectiveness of yoga in improving flexibility among Kabaddi players, a demographic that frequently relies on standard conditioning techniques. The findings are useful for coaches and athletes, as they advocate for incorporating yoga into regular training regimens to improve physical and mental performance. This approach is consistent with the growing recognition of yoga as a scientifically validated practice for overall health and performance improvement.

4. STATEMENT OF THE PROBLEM

The study investigates the impact of yogic practices on the flexibility of male degree college students who are intercollegiate Kabaddi players. The research is titled “Impact of Yogic Practices on Flexibility in Intercollegiate Kabaddi Players: An Experimental Study.”

5. OBJECTIVES OF THE STUDY

The primary objective of the study is to assess the effect of yogic practices on the flexibility of male intercollegiate Kabaddi players at the degree college level.

6. HYPOTHESES OF THE STUDY

The following null hypotheses have been formulated for empirical validation:

1. There is no significant difference in the mean flexibility scores between male degree college students participating in the Yogic Exercises Practices Group (YEPG) and those in the Control Group (CG).
2. There is no significant difference in the mean flexibility scores between the pre-test and post-test assessments for male degree college students in the Yogic Exercises Practices Group (YEPG).

7. METHODOLOGY

This experimental study examines the impact of yogic practices on the flexibility of male degree college students. Fifty participants from the Government First Grade College, Haveri, Karnataka, India, were randomly assigned into two groups:

Experimental Group-I (YEPG): Received yogic practices as an intervention.

Control Group (CG): Continued their usual routine without any intervention.

Flexibility was assessed using the sit-and-reach test (measured in centimeters). Pre-test scores were collected for both groups prior to the intervention. The experimental group underwent yogic practices three days per week for 8 weeks in addition to their regular activities, while the control group maintained their standard routines.

After the 8-weeks intervention, post-test scores were collected to assess changes in flexibility. The data were analyzed using the dependent ‘t’ test, with statistical computations carried out using SPSS and MS Excel.

8. ANALYSIS OF DATA

The data collected before and after the experimental intervention were analyzed to assess the impact of yogic practices on flexibility in intercollegiate Kabaddi players. The results for the Experimental Group-I (YEPG), which underwent yogic practices and the Control Group (CG), which followed their regular routine, are summarized in Table 1.

Table-1: Mean Scores, Standard Deviations and Mean Differences in Flexibility

Test	CG		YEPG	
	Mean scores	Standard Deviation	Mean scores	Standard Deviation
Pre	8.480	5.990	8.956	5.133
Post	8.820	6.055	12.020	5.001
Mean Difference	0.340		3.064	

The table reveals that the pre-test mean flexibility score for the CG group was 8.480, which increased marginally to 8.820 in the post-test, indicating no significant improvement. For the YEPG group, the pre-test mean flexibility score was 8.956, which improved substantially to 12.020 after the intervention, showing a marked increase.

The mean difference in flexibility scores for the CG group was 0.340 (an improvement of 5.07%), which is minimal. In contrast, the YEPG group showed a mean difference of 3.064 (an improvement of 17.80%), indicating a significant enhancement in flexibility. These results highlight that while both groups showed some improvement in flexibility, the YEPG group exhibited a far greater increase compared to the CG group. This suggests that the yogic practices had a pronounced and positive effect on the flexibility of intercollegiate Kabaddi players, making it a more effective intervention than the regular activities undertaken by the control group.

Table-2: Paired t-Test Results Comparing to Pre-Test and Post-Test Scores for Flexibility.

Variable	Test	Mean	Standard Deviation	Obtained 't' value
Pair-1CG	Pre Test	8.480	5.990	1.43 ^{NS}
	Post Test	8.820	6.055	
Pair-2YEPG	Pre Test	8.956	5.133	9.31*
	Post Test	12.020	5.001	

^{NS}Not Significant; *Significant at 0.05 level (df=24, 2.06)

Control Group (CG): The mean flexibility score for the control group increased slightly from 8.480 (SD = 5.990) in the pre-test to 8.820 (SD = 6.055) in the post-test. The paired t-test yielded a value of 1.43, which is less than the critical value of 2.06 at the 0.05 significance level. This indicates that the difference in flexibility scores for the CG group is not statistically significant. Hence, Hypothesis-1 is accepted, confirming that there is no significant improvement in flexibility for male degree students in the control group.

Experimental Group (YEPG): The mean flexibility score for the YEPG group improved significantly from 8.956 (SD = 5.133) in the pre-test to 12.020 (SD = 5.001) in the post-test. The paired t-test yielded a value of 9.31, which exceeds the critical value of 2.06 at the 0.05 significance level. This indicates that the improvement in flexibility for the YEPG group is statistically significant. As a result, Hypothesis-2 is rejected and the alternative hypothesis is accepted, confirming that the yogic exercises had a substantial positive impact on flexibility in the experimental group.

The control group, which did not receive yogic intervention, showed no significant improvement in flexibility, suggesting that regular activities alone are insufficient to enhance flexibility. The experimental group (YEPG), which underwent 8 week of yogic practices, exhibited a significant improvement in flexibility, demonstrating the effectiveness of the intervention. These findings affirm that incorporating yogic practices into training programs for intercollegiate Kabaddi players is highly beneficial for improving flexibility, a critical component of athletic performance.

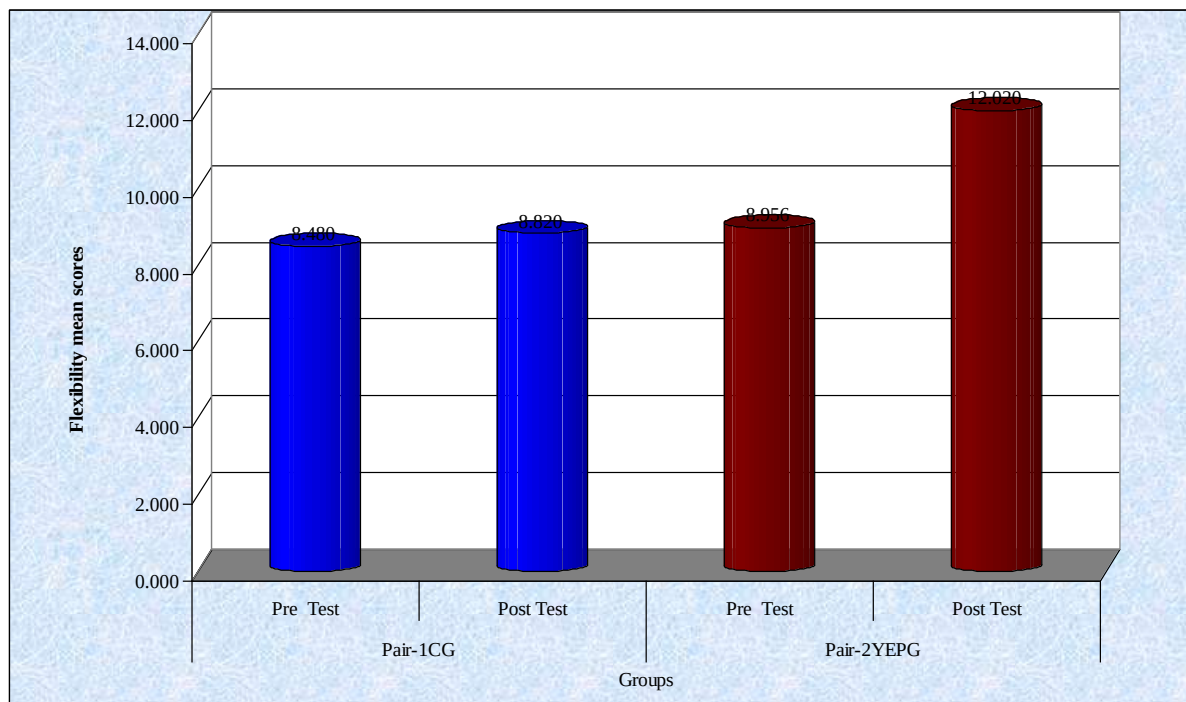


Fig.1: Bar graph showing a comparison of pre-test and post-test scores of Flexibility among intercollegiate Kabaddi players in control and experimental groups.

9. FINDINGS OF THE STUDY

The study found substantial variations in flexibility between the two groups after an 8-week intervention. The experimental group (YEPG), which practiced yogic techniques, showed significant increase in flexibility. The pre-test mean flexibility score was 8.956, which climbed to 12.020 in the post-test, with a high t-value of 9.31, indicating a statistically significant improvement ($p < 0.05$). In comparison, the control group (CG) had a little increase in flexibility, from 8.480 to 8.820, with an acquired t-value of 1.43, which was less than the crucial threshold of 2.06, indicating no significant improvement in flexibility ($p > 0.05$). These findings indicate that yogic practices significantly improve flexibility in intercollegiate Kabaddi players.

10. DISCUSSION ON FINDINGS

The findings of this study are consistent with prior research demonstrating the beneficial effects of yoga activities on flexibility. Several studies have found that yoga increases flexibility by encouraging muscle relaxation, increasing joint mobility, and improving posture and balance. For example, Gupta et al. (2018) found that frequent yoga practice enhanced flexibility and reduced muscular tension in athletes, which is consistent with the findings of the current study. Similarly, Patel et al. (2019) discovered that yoga improved flexibility in collegiate athletes, particularly in the lower back and hamstrings, which are crucial for athletes participating in sports such as Kabaddi.

The control group in this study, which did not engage in yogic practices, showed no gain in flexibility, corroborating the claim that physical activities alone, without systematic flexibility exercises like yoga, do not produce substantial results. This is consistent with Kumar et al.'s (2017) findings, which indicated that without specific flexibility training, general physical activity does not result in significant flexibility increases.

The YEPG group showed considerable increase in flexibility due to the unique nature of yogic practices, which include dynamic stretching, pose holding, and regulated breathing techniques that promote muscle elongation and joint mobility. This is consistent with the findings of Bhattacharya et al. (2020), who stated that yoga increases not just flexibility but also strength and balance, both of which are important for Kabaddi players.

11. CONCLUSION

The study concluded that yoga practices improve and significantly increase the flexibility of intercollegiate Kabaddi players. Participants in the experimental group (YEPG) who practiced yoga on a regular basis showed significant increases in flexibility, whereas those in the control group did not. These

findings indicate that yoga can be effectively integrated into training regimens for Kabaddi players and other athletes to improve flexibility and, potentially, overall performance.

12. IMPLICATIONS

The study's findings have significant implications for both athletic training and the promotion of holistic fitness programs. First, yoga can be incorporated into the physical training of athletes, particularly Kabaddi players, because it is a low-risk, effective strategy for increasing flexibility and reducing injuries. Second, the study stresses the value of adding yoga as a supplement to standard sports training. Yoga can help athletes perform better by improving their flexibility, lowering the likelihood of muscle strains, and promoting faster recovery.

For coaches and sports experts, the study reveals that introducing yoga into training regimens can help players improve their flexibility, which is critical for performance in sports requiring explosive movements, such as Kabaddi. Furthermore, the findings add to the expanding body of evidence supporting the incorporation of yoga into sports programs, not only for flexibility but also for overall well-being, such as mental relaxation and concentration.

Finally, this study establishes the foundation for future research into the effects of yoga on other physical fitness components such as strength, balance, and endurance, as well as its impacts on mental focus and stress management in athletes. Future research might look into the long-term effects of yoga on athletic performance and its benefits in many sports contexts, notably strength and endurance-based competitions.

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